

REMARKS

By the present amendment, claims 30-47 are pending in the application.

Support For Claims

Elected Claims

The new claims of the present amendment correspond to the prior elected claims as follows:

<u>New</u>		<u>Old</u>
30	-	1
32	-	16
34	-	18
36	-	20
38	-	22
39	-	23
41	-	10
42	-	27
45	-	29

Previously Withdrawn Claims

The previously withdrawn claims of the present amendment correspond to the prior non-elected claims as follows:

<u>New</u>		<u>Old</u>
31	-	2
33	-	17
35	-	19

37	-	21
40	-	24
43	-	28
44	-	29

New Withdrawn Claims

The new withdrawn claims of the present amendment correspond to the prior claims as follows:

<u>New</u>		<u>Old</u>
46	-	1 + 2
47	-	10 + 1 + 2

Prior non-elected independent claim 2 has been rewritten as dependent claim 31 which is dependent on new independent product claim 30 which corresponds to prior elected independent product claim 1.

New independent method claim 41 corresponds to prior elected independent method claim 10.

By the present amendment, all previously withdrawn non-elected claims are now dependent, directly or indirectly, on new elected independent product claim 30 or new elected independent method claim 41.

By the present amendment, new independent claim 46 is a combination of prior elected independent product claim 1 and prior non-elected independent composition claim 2. New independent claim 47 is a combination of prior elected independent method claim 10, prior elected independent product claim 1 and prior non-elected independent composition claim 2.

Possible Rejoinder

All withdrawn claims are dependent on independent product claim 30 or independent method claim 41 or in the case of new withdrawn independent claims 46 and 47 contain all the limitations of independent product claim 30.

If independent product claim 30 and/or independent method claim 41 are allowed, it is respectfully requested that appropriate withdrawn claims be rejoined to the application and allowed.

Claim Objection

Claim 3 was objected to as being dependent on a non-elected claim.

By the present amendment, claim 3 has been canceled. Therefore, the objection to claim 3 is now moot.

§112, ¶2

Claims 1, 10, 16, 18, 20, 22, 23, 25 and 27-29 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite.

The rejection under 35 U.S.C. §112, second paragraph, is respectfully traversed. It is maintained that 37 C.F.R. §1.75(i) and MPEP 608.01(m) have no basis in 35 U.S.C. §112, second paragraph, i.e., have no statutory basis, and are only administrative regulations.

In accordance with 37 C.F.R. §1.75 (i), all claims of the present amendment have been written with each element or step of the claim separated by a line indentation.

Claim 28 was objected to because of the use of the word "type". By the present amendment, claim 28 has been

canceled. The word "type" does not appear in any claim of the present amendment. Likewise, no claim of the present amendment has a broad range followed by a narrower range.

Claims 10 and 25 have also been canceled by the present amendment. Therefore, the rejection of these claims under 35 U.S.C. §112, second paragraph, is now moot.

In view of the present amendment and foregoing remarks, it is respectfully requested that the rejections under 35 U.S.C. §112, second paragraph, be withdrawn.

§112, ¶1

Claims 1, 16, 18, 20, 22, 23 and 25 were rejected under 35 U.S.C. §112, first paragraph, with the Office Action taking the position "because the specification, while being enabling for a sintered body comprising a single phase of cordierite and optionally additionally a $\text{LiO}_2\text{-Al}_2\text{O}_3\text{-SiO}_2$ crystal phase (see e.g., page 17, first full paragraph) does not reasonably provide enablement for the product as generically claimed. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to produce the invention commensurate in scope with these claims."

This rejection is respectfully traverse.

Independent claim 30 (corresponding to original claim 1) and the claims dependent thereon are product claims. The specification clearly teaches one skilled in the art how to make the claimed product. The claimed product exists and the specification teaches one skilled in the art how to make the claimed product and the

specification discloses industrial uses for the product. This is all that the law requires. There is no requirement to disclose multiple ways to make a new product.

As stated in MPEP 2164.01(b):

2164.01(b) How to Make the Claimed Invention

As long as the specification discloses at least one method for making and using the claimed invention that bears a reasonable correlation to the entire scope of the claim, then the enablement requirement of 35 U.S.C. 112 is satisfied. In re Fisher, 427 F.2d 833, 839, 166 USPQ 18, 24 (CCPA 1970). Failure to disclose other methods by which the claimed invention may be made does not render a claim invalid under 35 U.S.C. 112. Spectra-Physics, Inc. v. Coherent, Inc., 827 F.2d 1524, 1533, 3 USPQ2d 1737, 1743 (Fed. Cir.), cert. denied, 484 U.S. 954 (1987).

In view of the foregoing, it is respectfully requested that the rejection under 35 U.S.C. §112, first paragraph, be withdrawn.

§102

Claims 10, 27 and 29 were rejected under 35 U.S.C. §102(b) as being unpatentable over Japan No. 03-150263A (identified in the Office Action as JP 403150263A).

Claims 10, 27 and 29 were rejected under 35 U.S.C. §102(b) as being unpatentable over Japan No. 02-074538A (identified in the Office Action as JP 402074538A).

These rejections as applied to the pending and withdrawn claims of the present amendment are respectfully traversed.

Patentability

JP 02074538A relates to black mica glass ceramics and its production having a specific composition. However, the thermal expansion coefficient of the black mica glass ceramics of JP '538 is $(5 - 10) \times 10^{-6}/K$ and is very great, while that of the present invention is not more than $0.6 \times 10^{-6}/^{\circ}C$ and is very small. That is, it is different by a factor of at least about 10.

Further, Young's modulus of commercially available mica glass ceramics is 50-85 GPa, so the sintered body of JP '538 which contains a larger amount of fluorine and potassium than the commercially available mica glass ceramics is expected to have a lower modulus of elasticity. Therefore, it is quite different from the sintered body having not less than 100 GPa as in the present invention.

Furthermore, the composition is quite different as follows:

TABLE

	Composition of JP '958 (wt%)	Composition of the present invention (wt%)
Li ₂ O	-	0 - 2.5
MgO	10 - 20	8 - 17
SiO ₂	35 - 55	49.5 - 65
Al ₂ O ₃	10 - 20	22 - 38
K ₂ O	3 - 15	-
F	2 - 15	-
C	10 - 20	-

As is clear from the above table, the range of alumina is quite different. Further, the glass ceramics of the JP `958 contains a large amount of K_2O , F and C, but the sintered body of the present invention does not contain K_2O , F and C. Furthermore, the glass ceramics of the JP `958 contains 20-50 % by weight of fluorine gold mica, but the sintered body of the present invention contains not less than 80 % by weight of cordierite, so the material is quite different from each other.

JP 03-150263A relates to black zirconia ceramics and the production thereof. According to a precise measurement, the thermal expansion coefficient of zirconia at room temperature is $9.4 \times 10^{-6}/K$, so it is expected that the thermal expansion coefficient of the ceramics having 70 - 90 by weight of zirconia disclosed in JP `263 is $(7-10) \times 10^{-6}/K$, so it is higher by at least a factor of 10 than that of the present invention. The modulus of elasticity (E) of zirconia is about 200 GPa, even in a partially stabilized zirconia having higher modulus of elasticity, and the density thereof is (ρ) is 6.0 g/cm^3 . Therefore, the specific rigidity (E/ρ) is $33 \text{ GPa.cm}^3/\text{g}$ and is lower than that of the present invention which is more than $40 \text{ GPa.cm}^3/\text{g}$. Furthermore, the composition of the ceramics in the JP `263 is 70 - 90% by weight of zirconia, 4 - 14 % by weight of yttria and 6 - 16 % weight of titania.

Therefore, JP `263 is quite different from the present invention.

It is therefore submitted that the pending and withdrawn claims of the present amendment are patentable over Japan No. 03-150263A and/or Japan No. 02-074538A.

CONCLUSION

It is submitted that in view of the present amendment and foregoing remarks, the application is now in condition for allowance. It is therefore respectfully requested that the application, as amended, be allowed and passed to issue.

Respectfully submitted,

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